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Environmental Humanists Respond to the World Scientists' Warning to Humanity



## Long Live the Climate Machine!

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# Long Live the Climate Machine!

by Nathalie Blanc



## *Abstract*

*This paper tries to grasp the different links of the issue of climate change in the public debate from the point of view of adaptation. Firstly, it is a question of the novelty introduced by the climate problem on ecological sentiment, a novelty which, apart from the dramatic nature of the consequences, appears fundamental on several levels. It is necessary to deal with the all-encompassing nature of the climate issue. Secondly, given the diversity of risks related to climate change and their capacity to destabilize democracies, what kind of adaptation is conceivable? We need to go back to the root of what adaptation means, and consider the fact that adaptation emerges from an aesthetic that amounts to taking care of ourselves in the environment, paying attention to what makes our lives possible. Thirdly, and finally, given the total nature of these risks, it is relevant to redefine the links between risk representations and risk itself. Faced with this, lost in the whirlwind of media realities, adaptation can be thought of as a way of anchoring in territories so as to give a place to possible collective actions and learning in connection with living environments.*

*Keywords: Climate machine, ecological feeling, adaptation, local politics*



## *About the Author*

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# Long Live the Climate Machine!

*Nathalie Blanc*

Long live the climate machine! I use the word “machine,” quoting Gilles Deleuze and Félix Guattari<sup>1</sup> because, as climate scientists and environmental scientists remind us, it is essential in this time of urgency to grasp the magnitude of the changes that are taking place in the earth system. Yet in the face of the vertigo that seizes so many of us—a disorientation over what climate change means definitionally and existentially—it seems equally important to reflect on and to understand the different threads that link this issue in the public debate. Climate change is a machine in the sense that its complex dynamics serve to create narratives, including visual and sound forms, that seem to take on lives of their own in political, scientific and policy contexts, as well as in the media. To understand this complexity, we need to take a large view of this issue. Many would say—particularly the younger generation—that we don’t have time to pause and ponder these questions too much, because the need to act is too urgent. No doubt they would be right. And yet we still need to come to terms first with what is truly at stake at each of these levels.

This climate machine is natural, material, but its representations also reveal the unequal capacities and possibilities for adapting to its associated risks. These risks can be divided into numerous issues and problems. How can they be qualified within the machine, and what might this tell us about the urgency to act? The machine is sensitive, with ethical and aesthetic dimensions that open up to non-anthropocentric possibilities—not a bio-centric aesthetic, but an eco-centric one centered on the idea of ecological responsibility. In this sense the climate machine can even be understood as being rooted, to some degree, in environmental aesthetics, with sensitive foundations that echo emotions and reflect environmental representations. What is it like to feel connected to one’s environment and to ecosystems? Ecological feeling is born from the fact of feeling, from the possibility of being affected, and from the capacity to comprehend one’s environment as a result of these affects. That this ecological feeling concerns all kinds of entities, in accordance with a relational philosophy, may well provide the basis for a generalized sense of solidarity and, thereby, the realization of

ecological responsibility through an embrace of diverse temporalities and spatialities. Raising aesthetics in relation to climate change, and the urgency associated with it, opens up new possibilities for resistance to safe retreats, just as it can stimulate affirmation and creative forces of production towards new ways of living. Reaffirmed emotional connections to natural environments, reinforcing our own expressions and representations of these environments, offer us the opportunity to testify, through our very lifestyles, regarding what matters most to us and how it matters, a new way of becoming accountable. What I refer to here as *ecological feeling* also allows what has always been present, though often denied, to be brought more fruitfully into the picture. Collectively sharing and affectively exploring the potential of these denied “capabilities”—a conceptual keyword developed by Amartya Sen (2009) and Martha Nussbaum (2011)—represents precisely the gap between the achievable and the imaginable that needs to be filled, a development that can be realized by aligning the adaptive capacities of people with opportunities for environmental fullness that have been too long suppressed.

First of all, the very novelty of exploring ecological sentiment through the climate crisis, quite apart from the dramatic nature of the consequences, is fundamentally significant. In this essay I wish to acknowledge the all-encompassing nature of the climate. The climate system is like a bubble. It includes our atmosphere, of course, but it also includes the seasons, its cyclically repetitive character. As we move stubbornly towards the unknown and the unpredictable, it seems exceedingly difficult, if not impossible, to predict the end of climate change, or what the temporalities of this change will be, when urgency is one of the very watchwords of these developments. How can we satisfactorily address what it all means, exactly, when so many aspects of our lives are affected by all the variables that come into play with, from and as result of climate change?

Secondly, given the diversity of risks related to climate change and their capacity to destabilize democracies, as evidenced by the COVID-19 pandemic of 2020, what kind of adaptation is conceivable? How can we even think that adaptation is possible? In this essay I aim to go back to the root of what that word means, and consider the fact that adaptation emerges from an aesthetic that amounts to taking care of ourselves in the environment, paying attention to the conditions that make our lives possible. This ecological responsibility implies wanting to invent a future for relationships, temporalities and spatialities. It is important to address questions concerning how we can and should respond to disasters, though it is also worth bearing in mind that the risks associated with climate change are not always disruptive or considered emergencies evenly around the world.

Thirdly, and finally, given the comprehensive nature of these risks, I wish to highlight in this essay the connection between risk representations and risk itself, and the relevance of working to redefine this connection. To those who belong to privileged societies and classes—sheltered by their screens, their wealth, their country, by actions and structures that are the product of more or less coordinated natures, cultures, and policies—risk may appear to be defined as a climate-constrained future. Consider, for example, the case of the novel coronavirus, where people of a certain class in highly industrialized societies of the Global North have been confined, seized with fear, sheltered by a myriad of screens, connected through a kind of over-mediality where reality is digitally fabricated and commented on in a loop of assessments and fictions taken up and reinvented. In such contexts risk is the object of countless transactions, only some of which may be grasped by members of an affected and concerned public. In any case, this over-mediated movement has a tendency to create a public media space of input, where everyone is given evidence and produces information from an opinion, life experience, testimony, or expertise. For there is also a war between the media, commentators, data and information producers, and finally decision-makers. Lost in the whirlwind of competing media realities, adaptation should be understood as a way to better anchor oneself in the reality of one's own territory in order to give place to collective action and to learn to live according to the requirements of one's environment.

### How Do We Define Climate and Climate Change?

Being part of an informed public with expertise as an environmental geographer, I recognize how difficult it is to agree on what climate change is. While I can accept the definition of the Intergovernmental Panel on Climate Change (IPCC), reading the definition below certainly implies one's situation in a scientific culture. According to the 2014 IPCC report, "Climate change refers to a change in the state of the climate that can be identified (e.g., by using statistical tests) by changes in the mean and/or the variability of its properties and that persists for an extended period, typically decades or longer" (120). Climate change may be due to natural internal processes or external forcings, such as modulations of the solar cycles, volcanic eruptions and persistent anthropogenic changes in the composition of the atmosphere or in land use. Note that the Article 1 of the United Nations Framework Convention on Climate Change (UNFCCC 1992) defines climate change as "a change of climate which is attributed directly or indirectly to human activity that alters the composition of the global atmosphere and which is in addition to natural climate variability observed over comparable time periods." Thus a distinction is made between climate change

attributable to human activities altering the atmospheric composition and climate variability attributable to natural causes. Several elements are important in this definition, including the idea that the climate is undergoing significant transformations, some of which are the result of forcings associated with human activities. This idea of forcing reiterates the notion of a natural dynamic subject to human or other activities (solar, volcanic) undergoing violent influences. As a possible consequence, a natural system that has been destabilized can underlie or affect the context of a pandemic.

Here it may be useful to consider how the climate problem has been constructed in the international debate. Numerous works, conferences and events for the general public, involving many different types of actors, have been devoted to reporting on environmental issues in the public debate over the course of the second half of the 20<sup>th</sup> century. The Meadows Report, commissioned from researchers at the Massachusetts Institute of Technology (MIT) by the Club of Rome in 1970 and published in English in 1972 was one of the first studies to recognize the limits of the Planet Earth in the face of resource consumption and population growth. “The United Nations Conference on the Human Environment” held in Stockholm in June 1972 marked an acknowledgment of the rise in environmental problems, on the one hand, and a toughening of demands on countries in the Global South, in terms of the rights to development, at the origin of the United Nations Environment Programme (UNEP). However, the first World Climate Conference was organized by the World Meteorological Organization (WMO) and the United Nations Environment Programme (UNEP) in Geneva in 1979. This conference concluded that anthropogenic carbon dioxide emissions could have a long-term effect on the climate. A series of subsequent meetings and conferences, including the 1988 Toronto conference on “The Changing Atmosphere: Implications for Global Security,” marked a new stage in media coverage and politicization of climate change, when the WMO and UNEP committed to the establishment of an intergovernmental mechanism for the study of climate change, its impacts and adaptation measures, which was to be formally established as the IPCC. The IPCC was invited to review and make recommendations on the state of knowledge on climate change and its social and economic impacts (De Pryck 2014). The year 1990 marked a new stage in the emergence of the climate issue, with the Second World Climate Conference, which brought together 149 countries. The final declaration of this conference called for the establishment of negotiations for an international convention on climate change, which would eventually lead to the establishment of the UNFCCC. In addition, the publication of the IPCC’s first report that same year further anchored this issue in the global landscape.

However, Bodansky (2001) notes that, until 1990, the states interested in this issue were mainly the industrialized Western states, the same states that conducted the main scientific research on this subject (28). He also notes an emerging divide between developed and developing countries, with the latter being less united in asserting their position (30). Between the birth of the IPCC and 2020, each successive IPCC assessment report has become increasingly alarming, and the climate question has steadily gained significance in the policy sphere to become one of the preeminent international issues of the 21<sup>st</sup> century. The IPCC's special report on the consequences of global warming of 1.5°, published in 2018, calls for a constrained trajectory that would drastically reduce global anthropogenic carbon dioxide (CO<sub>2</sub>) emissions over the next decade to zero. Today, such a voluntary commitment, commensurate with the halt in economies during the COVID-19 crisis, seems possible but far from certain to be achieved, as the scale of the changes to be made and the scale of the coming catastrophe are dizzying. However, the various economic recovery plans of developed countries from the COVID-19 pandemic have taken little account of the environmental issues.

Let us recall what, if anything, should have been highlighted and prioritized by the international community in response to the 2018 special report from the IPCC. Firstly, the dependence on fossil fuels. Not only is this dependence insufficiently addressed by national governments and public authorities, but steps to find new sources of fossil energy or exploitable resources are still regarded as very important by many countries. It is difficult to see, therefore, what would make it possible to detoxify ourselves from the dependence on which large parts of national economies and globalized flows of goods are based. The new applications of digital networks are also extremely energy-intensive. Whether it is a question of clothing, culture or travel, all our practices, based on ignorance of the finitude of the earth's resources, force us to rethink the question of a model of society that is not based on consumption and spending.

One of the questions now often pointed out, which Edwin Zaccai (2019) has recently taken up, is that of cognitive dissonance. This concept, developed by the American psychologist Leon Festinger in *A Theory of Cognitive Dissonance* (1957), focuses on an individual's awareness of a contradiction between his/her personal actions and values, and how to mitigate the resulting disconnection. The individual concerned will relativize the importance of dissonance, elaborate a rational discourse, and highlight convergences. George Marshall in *Don't Even Think About It: Why Our Brains Are Wired to Ignore Climate Change* (2014) explains the value of language and vocabulary, as well as shared images to convince. No one wants to take scientific results for granted in spite of the influence of scientists and the inexorable advance of environmental degradation in so many ways. Therefore, the effect is that we do not believe in climate change because

we do not seem to act on it. However, is this not an admission of powerlessness rather than a lack of trust? Is it not difficult for individuals to adjust their behavior to the consequences of climate change in an environment that continues to favor consumerism? Indeed, the question is a collective one, and is not only a matter of individual behavior, which is what consumer capitalism would have us believe. Beyond individual and collective dependencies, therefore, policies project the measure of this powerlessness on a global scale.

Moreover, it should be stressed that there are very great uncertainties regarding the consequences of climate change, which depend largely on the political choices made in the coming years regarding the reduction of greenhouse gas emissions, but also regarding adaptation to climate change. The roles of capitalism, neo-liberalism, the market economy, growth, and even productivity are important in the climate crisis. In addition to this, we could also question the role of European originating culture, largely crystallized around a conquering monotheism, Christianity. For some authors, for example Jeremy Lent (2017) or Amitav Gosh (2017), it is clear that colonialism and ideological proselytism are at the root of the climate crises. Amitav Gosh (2017) writes that “imperialism would also be a cause of the weakness of the fight against climate change: the latter will justify the occupation and control of threatened places” (132).

In short, climate change is widely debated and is the subject of a plethora of literature. David Wallace-Wells’ catastrophic book *The Uninhabitable Earth: A Story of the Future or Many Others* (2019) demonstrates that the literature on the subject of disaster, or even collapse, has become overwhelming with no promise of decreasing in the near term. Depending on attitudes towards climate change, positions today boil down to secular behavior anchored in the idea of rational, human-scale responses to the development of a sustainable society, or a political and militant ecology denouncing environmental injustices, or even a collapse advocating the near end of our civilization. Together with Ilse N. Bulhof and Laurens ten Kate (2000), we could call this movement a negative theology. Here we find ourselves among perspectives of things unknowable, unspeakable and even sublime, in the sense of opposites to beauty, as the latter constitutes an ordinary sensible perspective. It is highly relevant to reflect on the relationship of this negative theology to the idea of a generalized social restructuring in the context of growing socio-environmental inequalities. Whether messianic or prophetic, the rejected of this world aspire to catastrophe and punishment capable of striking the richest in a redemptive and possibly curative way. In this sense, eco-apocalyptic imaginations rather than asking what it means to live by adapting and trying to reduce impacts prefer to dream of extinction. This is a response to the anguish inspired by the major crises being experienced today, but these catastrophic fantasies

are also rooted in the desire to overcome one's powerlessness to act, as well as the general political incapacity to do so. Such perspectives echo the disorientation and fear in extreme political regimes capable of emerging in catastrophic times.

In connection with this aesthetics of climate change (e.g. sensitivity to and representations of the climate), we have little choice but to consider how it will be possible to live, not only physically, biologically, in the decades to come, but also psychologically. In the absence of an apocalyptic imagination, we may be forced to adapt despite ever-increasing uncertainty.

### Adaptation and Consideration of Risks

What is adaptation, including adaptation in the context of uncertainty? The issue of adaptation is often connected to liberal or neo-liberal political doctrines. Moreover, it is striking to note that the issue of mitigation is elevated over adaptation in climate change policies under the pretext of giving priority to mitigation reforms. According to the Centre National de Ressources Textuelles et Lexicales (CNTRL), the definition of the term "adaptation," in its simplest sense, refers to "the action of adapting" of "the result of this action." Vidal de la Blache (1921), among the first French geographers, defined it as follows:

. . . so that even a change of wind, a blow of sirocco, khamsin, or, as we say in Sardinia, of *levante maladetto*, is enough to produce a tremor, to throw the temporary disorder in our organism. An unceasingly renewed effort would be necessary to face these vicissitudes, if adaptation and habituation did not intervene to absorb the shocks. Adaptation is equivalent to a saving of effort which, once achieved, assures each being, at less cost, the peaceful and regular accomplishment of his functions. (106–7)

So here we see the idea of taking the measure of events, on the sensitive level especially, of representations, as Paul Valéry explained in 1936, and of getting used to them, if not adjusting:

. . . we have organs, we have a whole specialized system that unexpectedly and very frequently reminds us of the new, that urges us to find the adaptation that suits the circumstance, the attitude, the act, the displacement or the deformation, that will cancel or accentuate the effects of the new. This is the system of our senses. The mind thus borrows from the sensitivity that provides

its initial sparks, that necessary character of instability that sets in motion its power of transformation. (212)

In this sense, adaptation also means moving without criteria in the light of a sensitive, aesthetic apprehension of the world. Looking more specifically at what this means for climate change, we know that adaptation was marginalized in the reports of international environmental summits and in the IPCC reports until the 1990s, being judged fatalistic. In the 2014 IPCC report, adaptation becomes “transformational” by considering that “the planning and implementation of adaptation measures at all levels of governance are conditioned by society’s values and objectives and by its perception of risks” (IPCC 2014). The IPCC now holds that society’s values must take precedence. Transformational adaptation proposes a side step: it is no longer simply a question of adapting the territory and its infrastructures (transport networks, heating networks, etc.) to climate change, but of integrating what the territory can offer so as to facilitate the adaptation of social practices and representations, taking into account environmental changes and their evolution (Simonet 2016). Adaptation thus becomes highly dependent on the context, but also on the values and priorities of inhabitant populations and (claimant) stakeholders.

Adapting is not only about adapting to what a territory (environment) can offer, but more broadly about maintaining living conditions that people consider decent for themselves and their families, by giving a place to their relational values—i.e. their *connections* to their families, their friends, their preferred environment—but also by feeling the possible risks that can compromise these difficult balances. Therefore, what we need to hear are the environmental signs that can alert us and the environmental promises that help to guide us towards our future goals and shape our behavior on the present and future. Territorial habitability is relational, insofar as it links inhabitants’ abilities with the possibilities that are offered to them in a particular environmental (territorial) context.

And what is the risk? The question of risk has been well documented and worked on for decades, with one of the first texts being Ulrich Beck’s *The Risk Society* ([1986] 1992). Without going back over a state of the art beyond the scope of this article, we can pause to review a few economic considerations, where recent literature reveals that risk management raises interesting questions. According to a recent report (Bolton et al. 2020), traditional approaches to risk management are based on historical data and assumptions about the normal distribution of shocks (Dépoues et al. 2019). The problem is that extrapolating historical trends can only lead to a poor assessment of climate-related risks, as these risks barely materialize. Moreover, climate change is

characterized by many uncertainties related to the climate models themselves, and their chain of consequences and impacts, particularly in a globalized context. Thus, standard approaches to risk modelling that extrapolate historical values (e.g. market prices) are no longer valid in a world fundamentally reshaped by climate change. The obstacle is scientific in particular, and there is no doubt that the response to these difficulties is to promote epistemological innovation.

For example, because of the incompatibility between probabilistic and retrospective approaches to risk management and the uncertain future-directed nature of climate-related risks, other scientific approaches, such as those based on narratives (Blanc and Laigle 2018), may be more relevant. The aim of such work is to establish plausible hypotheses for the future, based on processes in which various actors (human beings, animals, water, wind, etc.) appear, and in which a number of factors come into play, such as the environment, climate change, our *milieux de vie*. These narratives, although insufficient, hold the potential of opening up the materiality of climate change and related risks linked to non-linear dynamics (natural, technological, social, regulatory, and cultural, among others). Economic climate models are inherently incapable of representing all these interactions, and therefore overlook many social and political forces that strongly influence the way the world evolves. For example, mega-fires demonstrate the interdependence between climate, biodiversity, and infrastructure. In Australia, and in most places around the world, climate change is destroying biodiversity, which in turn worsens climatic conditions both locally and globally. These environmental conditions are causing fires that endanger the electricity and water infrastructure needed to fight the fires. Moreover, the battle against fires requires powerful vehicles, and therefore oil, and a lot of water, which aggravates global warming. The risks are systemic. From this perspective, the complex and multiple interactions between climate and socio-economic systems are such that the task of identifying and measuring climate-related risks presents significant methodological challenges.

Where does this leave us then? And how can we best position ourselves? Adapting means taking into account the fragilities of our environments in relation to our own vulnerabilities (in short, risks), with the aim of turning them into strengths. This is why the question of people's fragility must be considered in relation to the question of recognizing the interrelationships within socio-ecological systems. This is the path to transformational adaptation. Considering all the risks and taking active social measures—not bypassing them or being blind to their impact, but studying the way in which they require socio-ecological innovation and recognition of commonalities—remains a major challenge for future political reactions. It is necessary to learn to live in

ways that account for vulnerability and risk, and to get rid of a life perspective where only certainty and assurance are good. Already today we know that there is a great deal we do not know: the impact of scientific experiments; the life-size experiments on bodies and environments; the impact of the development of societies. In short, we need to recognize the fragility of our ecosystems and to create new horizons for life that takes into account our own vulnerability, but also our adaptive capacities.

### **Adaptation: A Response to Fragility in Terms of Capabilities**

When it comes to adaptation, it is important to be aware that the climatic fragility of a city, a region or of formal and informal collectives not only depends on exposure to risks, which at the scale of an agglomeration can be relatively similar, but also on their sensitivities and capacities to adapt to a specific scenario. Local adaptation strategies are often split into different plans. Because they are mandatory and because it is recommended that they take into account a greenhouse gas balance sheet, the French Climate Plans seem less conducive to the emergence of citizen narratives and both collective and diverse values than the Agenda 21 action plans, which are cross-cutting in nature and are initiated by specific territories. The calls for projects initiated by municipalities appear to be a concrete implementation of strategies adopted locally that are more likely to strengthen citizens' adaptive capacities. The diversity of scenarios obviously makes the development of these scenarios political. The challenge is to develop collective action and public policies capable of integrating environmental questions and approaches and into territorial strategies. There is frequently a disconnection in many territorial contexts between collective public attitudes towards climate change (often characterized by denial to one extent or another) and technocratic forms of adaptation developed by many public authorities. In the media landscape, the issue of climate change can sometimes be totally neglected or it can be treated as an absolute emergency. On the scientific level, or at the level of the science-policy interface, the danger may be that climate change may be treated as a problem with a certain reticence (in which offering technical solutions or prescriptions are avoided for fear of politicizing the debates). How then can we re-examine an issue that takes into account the scale and uncertainty of climate change, as well as the associated risks in terms of individual and collective fragility? We need to consider possible adaptations, not to mention the transformation of living environments in terms that foreground territorial habitability (Blanc 2010).

Mark Carney (2015) connects denial of the overall problem to the question of denial of the horizon—i.e., while climate impacts will be felt for generations and probably much longer, institutions, governments and states continue to view the issue

in the short term. Nevertheless, the denial is more likely linked to the impossibility of creativity. How, in a world of routines and repetition, especially socially and economically, can we produce entirely new and different ways of life?

Furthermore, issues of equity and social justice need to be taken into consideration when designing adaptation and mitigation policies (e.g. Adger 2006; Adger et al. 2013), which require a better understanding of the redistributive effects of climate change, the adaptation policies of our economies and the associated mitigation costs. Beyond a minimal and prescriptive conception of adaptation, based on targeted and punctual technical developments, it is a question of developing alternatives for local reappropriation of territories. Clearly we need to reconceive the relationships between the issues of social justice and environmental justice, i.e. between the tensions and demands that come into play in the relationships human beings have among themselves, and the conflicts that human beings have with their environments in the fullest ecological sense. The use of the term capabilities—a notion centered on the issue of the differentiated capacities of groups and individuals to convert the resources of their environments into possibilities for functioning: feeding themselves, getting an education, participating in political life (Sen 2009)—is a valid entry point for addressing issues of social and environmental justice. Indeed, capability analysis places great importance on the social and environmental factors that affect living conditions. It is concerned with the inequalities of gender (Gupta et al. 2019), conditions and status that condition the possibilities offered to individuals or groups to be able to carry out their basic functions (health care, food, etc.). However, it also proposes another conception of “public participation” from the perspective of mobilization. Finally, it does not reduce justice to a question of redistribution, but sees it from a democratic perspective of citizen and political involvement in the exploration of practices and relationships with others and with the environments that open up a field of possibilities. In short, capability analysis conceives of justice from the perspective of mobilizing citizens’ experiences. The idea is to open politics to real-life situations and citizen initiatives, and to valorize the power to act on the factors affecting living conditions. A conception of socio-environmental justice can thereby be embraced that links forms of political participation, recognizes links to the environment, and integrates distributive justice (Schlosberg 2013).

### Conclusion

Adaptation to climate change is critical for the future of societies. It poses a complex challenge due to the interactions between climate change and socio-economic dynamics at different scales. Until now, policy makers—and the scientific literature—

have focused mainly on protecting vulnerable populations from the impacts of climate change. This conception of adaptation has led to proposing solutions in the sense of territorial engineering, without making sufficient progress in the understanding of how populations can adapt.

In the context of integrating experiences in adaptation, one of the avenues for collective work is the territorialization of the management of environmental problems, including mitigation and adaptation to climate change. The aim is to place at the heart of the territories themselves an understanding of what climate change means for these same territories, including the many uncertainties, both scientific and political. The issue of climate change should no longer be seen as a purely global problem, regardless of its local translations. Consequently, climate change must enter the heart of local economies, and be part of the budgets of cities, collectives and individuals in order to transform practices and social representations. One way of looking at this problem is to see how populations themselves can contribute locally to climate change mitigation and adaptation efforts. Urban policies at the local level must publicize the fact that the ecological transition must be one for all and not for some who are more socially advantaged and better situated to adapt.

#### Notes

<sup>1</sup> The concept of the desiring machine places desire as a productive activity at the heart of reality from the outset. This desiring machine can appear as a common body without thoughts as a new form of subjectivity defined by the presence to the sensation.

#### References

- Adger, W. Neil. 2006. "Vulnerability." *Global Environmental Change* 16, no. 3 (August): 268–81. <https://doi.org/10.1016/j.gloenvcha.2006.02.006>.
- Adger, W. Neil, John Barnett, Katrina Brown, Nadine Marshall, and Karen O'Brien. 2013. "Cultural Dimensions of Climate Change Impacts and Adaptation." *Nature Climate Change* 3 (November): 112–17. <https://doi.org/10.1038/nclimate1666>.
- Beck, Ulrich. (1986) 1992. *Risk Society: Towards a New Modernity*. New York: Sage.
- Blanc, Nathalie. 2010. "De l'habitabilité Urbaine." In *Écologies Urbaines*, edited by Olivier Coutard and Jean-Pierre Levy, 169–83. Paris: Economica.
- Blanc, Nathalie, and Lydie Laigle. 2018. "Narratives, Capabilities and Climate Change: Towards a Sustainable Culture." In *Cultural Sustainability and the Nature-Culture Interface: Livelihoods, Policies, and Methodologies*, edited by Inger Birkeland, Rob Burton, Constanza Parra, and Katriina Siivonen, 197–209. New York: Routledge.

- Bodansky, Daniel. 2001. "The History of the Global Climate Change Regime." In *International Relations and Global Climate Change*, edited by Urs Luterbacher and Detlef F. Sprinz, 23–40. Cambridge: MIT Press.
- Bolton, Patrick, Morgan Despres, Luiz Awazu Pereira da Silva, Frederic Samama, and Romain Svartzman. 2020. *The Green Swan: Central Banking and Financial Stability in The Age of Climate Change*. BIS: Banque de France.
- Bulhof, Ilse N., and Laurens ten Kate. 2000. "Echoes of an Embarrassment." In *Flight of the Gods: Philosophical Perspectives on Negative Theology*, edited by Ilse N. Bulhof and Laurens ten Kate, 1–57. New York: Fordham University Press.
- Carney, Mark. 2015. "Breaking the Tragedy of the Horizon—Climate Change and Financial Stability." Speech at Lloyd's of London, London, September 29, 2015. <https://www.bis.org/review/r151009a.pdf>.
- Centre National de Ressources Textuelles et Lexicales (CNRTL). S.v. "adaptation." <https://www.cnrtl.fr/definition/adaptation>.
- Dépoues, Vivian, Michel Cardona, Morgane Nicol, and Vincent Bouchet. 2019. "Pour Une Autre Approche du Risque Climatique en Finance." *I4CE: Institute for Climate Economics*, November 4, 2019. <https://www.i4ce.org/download/for-another-approach-to-climate-risk-in-finance-taking-uncertainties-fully-into-account/>.
- De Pryck, Kari. 2014. "Le Groupe d'Experts Intergouvernemental sur l'Evolution du Climat, ou les Défis d'un Mariage Arrangé entre Science et Politique." CERISCOPE Environnement. Accessed July 1, 2020. <http://ceriscope.sciences-po.fr/environnement/part1/content/le-groupe-d-experts-intergouvernemental-sur-l-evolution-du-climat>.
- Festinger, Leon. 1957. *A Theory of Cognitive Dissonance*. Redwood City, California: Stanford University Press.
- Gosh, Amitav. 2017. *The Great Derangement: Climate Change and the Unthinkable*. Chicago: University of Chicago Press.
- Gupta, Joyeeta, Joeri Scholtens, Leisa Perch, Irene Dankelman, Joni Seager, Fülöp Sándor, Michael Stanley-Jones, et al. 2019. "Re-Imagining the Driver-Pressure-State-Impact-Response Framework from an Equity and Inclusive Development Perspective." *Sustainability Science* 15 (June): 503–20. <https://doi.org/10.1007/s11625-019-00708-6>.
- IPCC. 2014. "Annex II: Glossary." In *Climate Change 2014: Synthesis Report. Contribution of Working Groups I, II and III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change*, edited by R.K. Pachauri and L.A. Meyer, 117–30. IPCC, Geneva, Switzerland. [https://www.ipcc.ch/site/assets/uploads/2018/05/SYR\\_AR5\\_FINAL\\_full\\_wcover.pdf/](https://www.ipcc.ch/site/assets/uploads/2018/05/SYR_AR5_FINAL_full_wcover.pdf/).
- IPCC. 2018. "Summary for Policymakers." In *Global Warming of 1.5°C. An IPCC Special Report on the Impacts of Global Warming of 1.5°C above Pre-Industrial Levels and Related Global Greenhouse Gas Emission Pathways, in the Context of Strengthening the Global Response to the Threat of Climate Change, Sustainable Development, and Efforts to Eradicate Poverty*, edited by Valérie Masson-Delmotte, Panmao Zhai, Hans-Otto Pörtner, Debra Roberts, Jim Skea, Priyadarshi R. Shukla, Anna Pirani, et al. IPCC, Geneva, Switzerland. [https://www.ipcc.ch/site/assets/uploads/sites/2/2019/06/SR15\\_Full\\_Report\\_High\\_Res.pdf/](https://www.ipcc.ch/site/assets/uploads/sites/2/2019/06/SR15_Full_Report_High_Res.pdf/).
- Lent, Jeremy. 2017. *The Patterning Instinct: A Cultural History of Humanity's Search for Meaning*. Amherst: Prometheus Books.
- Marshall, George. 2014. *Don't Even Think About It: Why Our Brains Are Wired to Ignore Climate Change*. New York: Bloomsbury.
- Nussbaum, Martha C. 2011. *Creating Capabilities: The Human Development Approach*. Cambridge: Harvard University Press.

- Schlosberg David. 2013. "Theorising Environmental Justice: The Expanding Sphere of a Discourse." *Environmental Politics* 22 (1): 37–55.  
<https://doi.org/10.1080/09644016.2013.755387>.
- Sen, Amartya. 2009. *The Idea of Justice*. Cambridge: Belknap Press of Harvard University Press.
- Simonet, Guillaume. 2016. "De l'Ajustement à la Transformation: Vers Un Essor de l'Adaptation?" *Développement Durable et Territoires* 7, no. 2 (July): 1–14.  
<https://doi.org/10.4000/developpementdurable.11320>.
- "United Nations Framework Convention on Climate Change." Opened for signature June 3-14, 1992. *United Nations Treaty Series*, registration no. 30822.  
[https://treaties.un.org/Pages/ViewDetailsIII.aspx?src=TREATY&mtdsg\\_no=XXVII-7&chapter=27&Temp=mtdsg3&clang=\\_en](https://treaties.un.org/Pages/ViewDetailsIII.aspx?src=TREATY&mtdsg_no=XXVII-7&chapter=27&Temp=mtdsg3&clang=_en).
- Valéry, Paul. 1936. *Variété 3, La Politique de l'esprit*. Paris: Gallimard, NRF.
- Vidal de la Blache, Paul. 1921. *Principes de Géographie Humaine*. Paris: Armand Colin.
- Wallace-Wells, David. 2019. *The Uninhabitable Earth: Life After Warming*. London and New York: Penguin.
- Zaccai, Edwin. 2019. *Deux Degrés: les Sociétés Face au Changement Climatique*. Paris: Gallimard, NRF.